

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington DC 20554

JUL 29 1993

FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of)
)
Amendment of Part 90 of the)
Commission's Rules to Adopt)
Regulations for Automatic)
Vehicle Monitoring Systems)

PR Docket No. 93-61
RM-8013

REPLY COMMENTS OF SYMBOL TECHNOLOGIES, INC.

1. Symbol Technologies, Inc. ("Symbol") hereby submits these Reply Comments in the above-captioned proceeding.^{1/}

I. THE LARGE PREPONDERANCE OF COMMENTS IN THE PROCEEDING OPPOSE THE COMMISSION'S PROPOSAL.

2. Symbol's first-round comments in this proceeding showed that low-power spread spectrum operation at 902-928 MHz under Part 15 has become the foundation for fast-growing industries, and indeed is the fastest growing segment of the retail automation market; that this technology has numerous applications in other industries, including consumer products; that it facilitates the rapid deployment of new products and new technologies while minimizing the Government's regulatory burden; and that it helps the United States to maintain a competitive position in global markets.

3. Symbol explained that the Commission's proposal to implement the Location and Monitoring Service ("LMS") at 902-928 would severely impair operation of low-power spread spectrum systems, and would adversely affect users of those systems and their customers in turn. And the effects would not stop there.

^{1/} Automatic Vehicle Monitoring Systems, 8 FCC Rcd 2502 (1993)

To place unexpected handicaps on low-power spread spectrum at this late date would discourage investment not only in that particular technology but also in any unlicensed technology that might eventually find itself forced to share spectrum with a licensed service. Accordingly, Symbol urged the Commission not to license LMS at 902-928 MHz or, in the alternative, to license LMS on a co-secondary basis with Part 15 operations.

4. By Symbol's count, 31 other commenters raised some or all of these same issues.^{2/} Approximately a dozen Automatic Vehicle Monitoring users and manufacturers likewise opposed the Commission's proposal, essentially on the ground that it would hinder or prevent them from meeting their own and their customers' needs. Another twenty commenters with interests in the Amateur Radio Service opposed the proposal. Together, these oppositions represent approximately three-quarters of all

^{2/} See Comments of Accuscan; Comments of Aerotron-Repco Sales, Inc.; Comments of Alarm Device Manufacturing Co.; Comments of American President Companies, Ltd.; Comments of Automatic Identification Manufacturers Ass'n; Comments of California Air Resources Board; Comments of Clinicom; Comments of Cobra Electronic Corp.; Comments of Consumer Electronics Group of the Electronic Industries Association; Comments of Domestic Automaton Co.; Comments of Ericsson Corp.; Comments of Knogo Corp.; Comments of Medical Data Electronics; Comments of Metricom, Inc.; Comments of Nellcor, Inc.; Comments of Norand Corp.; Comments of North American Telecommunications Ass'n; Comments of Part 15 Coalition; Comments of Recoton Corp.; Comments of Science Applications International Corp.; Comments of Scientific Technologies, Inc.; Comments of Sensormatic Electronic Corp.; Comments of Southern California Edison Co.; Comments of Southern California Gas Co.; Comments of SpectraLink Corp.; Comments of Telescan Systems; Comments of Telxon Corp.; Comments of Thomson Consumer Electronics, Inc.; Comments of Uniden America Corp.; Comments of Uniplex Corp; and Comments of Utilities Telecommunications Council.

comments filed. Only eleven comments support the Commission's proposal, while another ten or so defy ready classification either way.

II. THE COMMISSION'S DECISIONS ON LMS MUST TAKE INTO ACCOUNT THE PUBLIC INTEREST IN PART 15 OPERATIONS.

5. All but four of the comments supporting of the Commission's LMS proposals ignore Part 15 operations; and, of those four, three consider only possible interference from Part 15 devices to LMS receivers.^{3/} Two of those comments go so far as to suggest that the Commission "restrict" or "relocate" Part 15 users to the 10 MHz proposed to be set aside for narrow-band systems.^{4/} Only one supporting comment even mentions the effects of LMS on Part 15 operations.^{5/}

6. The LMS proponents seem to share the view that Part 15 interests must be ignored in this proceeding because Part 15

^{3/} Comments of North American Teletrac at 11 n.13; Comments of Mobilevision, L.P. at 22 n.18, 45; Comments of Amtech Corp. at 11 n.20.

^{4/} Comments of Mobilevision, L.P. at 45; Comments of Amtech Corp. at 11 n.20. It is hardly necessary to point out that the proposal is unworkable on its face. Even if 10 MHz of spectrum were adequate for the burgeoning uses of spread spectrum systems -- which it is not -- to "restrict" or "relocate" the hundreds of thousands of 902-928 MHz devices already in use would be impossible.

^{5/} Comments of Mark IV IVHS Division at 15. This commenter makes the conclusory claim that its equipment does not result in harmful interference to Part 15 equipment, but it provides no data. Symbol suggests that the Commission invite Mark IV to place its data on public file for independent evaluation and comment. If Mark IV withholds its data, the Commission should disregard unsupported claims of compatibility between its equipment and Part 15 operations.

operations are secondary to licensed services. That conclusion is wrong.^{6/} To be sure, Part 15 is secondary to existing licensed services,^{7/} and perhaps also to licensed services that may be established in the future. But is preposterous to suggest that the Commission may not consider the consequences for unlicensed operations when deciding whether to establish a new licensed service, such as LMS. If the Commission determines -- as Symbol believes it must -- that the public interest in unlicensed spread spectrum operations at 902-928 MHz outweighs the high risk of interference from LMS, the Commission has not only the authority, but a statutory obligation, to refrain from licensing LMS in that band.^{8/}

7. The Commission itself has clearly stated the public interest in spread spectrum operations under Part 15. Most important, the Commission was correct when it "anticipat[ed] that this authorization will stimulate innovation in this technology,

^{6/} The conclusion is also unsound as a matter of policy, as Symbol showed in its June 29 comments in this proceeding.

^{7/} "Spread spectrum systems are allowed to operate within the ISM bands [including 902-928 MHz] only on a noninterference basis to other operations that have been authorized the use of those

while meeting our statutory goal of controlling interference."^{9/} Spread spectrum has permitted the deployment of new devices and services without the need to allocate additional spectrum.^{10/} It permits communications devices to increase their interference rejection while simultaneously decreasing their potential to interfere with other systems.^{11/} The implementation of these new technologies has been driven largely by marketplace forces, unhampered by superfluous regulation.^{12/} Explicit frequency coordination has been unnecessary, because each transmitter can communicate only with intended receivers.^{13/} Spectrum efficiency and message privacy and security have improved as a result.^{14/}

8. The Commission relied on these public interest benefits in its 1985 decision to authorize and encourage the development of spread spectrum technology.^{15/} Symbol, along with many other manufacturers and users, accepted the Commission's invitation and

^{9/} Spread Spectrum Systems, 98 F.C.C.2d 380, 380-81 (1984) (Further Notice of Inquiry and Notice of Proposed Rulemaking).

^{10/} See id. at 386.

^{11/} See id. at 386.

^{12/} See id. at 386-87.

^{13/} See Spread Spectrum Systems, 87 F.C.C.2d 876, 880 (1981) (Notice of Inquiry).

^{14/} See id. at 880-81.

^{15/} Spread Spectrum Systems, 101 F.C.C.2d 419 (1985) (citing the Notice of Inquiry and Further Notice of Inquiry and Notice of Proposed Rulemaking cited above). Other commenters have made much the same point. E.g., Comments of Part 15 Coalition at 5-8.

collectively invested hundreds of millions of dollars in Part 15 radio products at 902-928 MHz alone. The Commission cannot now ignore the public benefits and global competitive edge that the investment has yielded.

CONCLUSION

9. Adoption of the proposed rules would severely impair operation of Part 15 low-power spread spectrum systems at 902-928 MHz, and would adversely affect users of those systems and their customers in turn. Symbol urges the Commission not to license LMS in this band. In the alternative, Symbol asks the Commission to authorize LMS on a secondary basis with no more rights than Part 15 operations and other secondary uses.

Respectfully submitted,

Symbol Technologies, Inc.
1101 S. Winchester Blvd.
Suite B-110
San Jose, CA 95128
(408) 446-2210


Peter Tannenwald


Mitchell Lazarus

Arent, Fox, Kintner,
Plotkin & Kahn
1050 Connecticut Avenue, N.W.
Washington, DC 20036-5339
(202) 857-6024/6466

Counsel for
Symbol Technologies, Inc.

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